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ABSTRACT

In Part I of the Session, Network members describe and compare their experiences in utilizing various aspects of the SUNY Retrieval System including "query" cycle, scan statements, author searches, and book files. Machine problems are discussed as well as options on charging for searches, how much information to retrieve, and serving outside patrons. Suggestions for improvements are brought up including a more detailed search manual and the addition of tradings to the citations. Each library's unique use of the system based on its particular clientele and specific needs is brought out in this section. Part II focuses on the ability of users to successfully retrieve material from the data base in relation to such factors as machine capabilities, search strategy, suitability of search to system, and degree of training of search analysts. The need for identifying those aspects of an on-line information retrieval system which require establishment of particular policies and philosophies of service is made clear in these proceedings. (Author)

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SUNY BIOMEDICAL COMMUNICATION NETWORK

WORK SESSION

April 20, 1971

at the

COLLEGE OF MEDICINE & DENTISTRY OF NEW JERSEY

Newark, N.J.

Edited by Isabel Spiegel, Supervisor, Information Services
and Janet Crager, Specialist, Information Services
College of Medicine & Dentistry of New Jersey, Newark

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In Part I of the Session, Network members describe and compare their experiences in utilizing various aspects of the SUNY Retrieval System including "query" cycle, scan statements, author searches, and book files. Machine problems are discussed as well as options on charging for searches, how much information to retrieve, and serving outside patrons. Suggestions for improvements are brought up including a more detailed search manual and the addition of tracings to the citations. Each library's unique use of the system based on its particular clientele and specific needs is brought out in this section. Part II focuses on the ability of users to successfully retrieve material from the data base in relation to such factors as machine capabilities, search strategy, suitability of search to system, and degree of training of search analysts. The need for identifying those aspects of an on-line information retrieval system which require establishment of particular policies and philosophies of service is made clear in these proceedings.

Suny Biomedical Communication Network
Work Session
April 20 1971
at the
College of Medicine & Dentistry of New Jersey
Newark, N.J.

PREFACE

The SUNY Biomedical Communication Network, an on-line computerized bibliographic retrieval system represents an important contribution to the methodology of information control. The one day Work Session which follows presents significant data from a group of people who are directly on the information firing line; searchers, and retrievers who must pull out that which is useful from a huge mass of data.

The Work Session highlights the day to day problems of working with an on-line system. It should benefit the growing number of librarians and information scientists working with computerized retrieval systems. It should be particularly useful to biomedical information searchers working with MEDLINE, the on-line system of the National Library of Medicine.

These ensuing discussions separate propaganda from reality. The participants see the computer in all its contradictory elements; promising, frustrating, unbelievable, whimsical, beautiful, logical, omniscient, irrelevant, and sporadically highly satisfying.

Our searchers at the College of Medicine and Dentistry of New Jersey have their highs and lows manning the terminal. If you are an administrator, stay far away on the low days when the terminal is down. But in the long run, on-line bibliographic retrieval as evidenced by the SUNY system represents a major step forward in solving the information explosion.

Philip Rosenstein
Director of Libraries
College of Medicine and
Dentistry of New Jersey

On April 20, 1971, a SUNY WORK SESSION was held at the Library of the College of Medicine & Dentistry of New Jersey at Newark.

Present at the Session were staff members from five of the libraries in the New York metropolitan area which at the time, were active participants in the SUNY BIOMEDICAL COMMUNICATION NETWORK. These were: Cornell University Medical College, New York, N.Y.; Downstate Medical Center, Brooklyn, N.Y.; New York Academy of Medicine, New York, N.Y.; State University of New York at Stony Brook, East Setauket, N.Y.; and the College of Medicine & Dentistry of New Jersey at Newark, N.J. Also participating were representatives from Mount Sinai School of Medicine, New York, N.Y. and Mr. Rudolf Lienhard, Director of the SUNY BIOMEDICAL COMMUNICATION NETWORK at Syracuse, N.Y.

The following participated in the Work Session:

College of Medicine & Dentistry of New Jersey at Newark:

Miss Janet Crager

Mrs. Margery Read

Miss Isabel Spiegel

Mr. George Sprung

Cornell University Medical College:

Miss Doris Lowe

Mrs. Glenda Tilley

Downstate Medical Center:

Miss Janet Gross

Mr. Anthony Marin

Mount Sinai School of Medicine:

Mrs. June Burroughs

Mr. Robert Culp

Miss Dorothy Hill

New York Academy of Medicine:

Miss Carol Herring

Miss Ruth Marcolina

State University of New York at Stony Brook:

Miss Lee Tanen

SUNY Biomedical Communication Network

Mr. Rudolf Lienhard

The Session was tape recorded and an edited transcription of the tape by Isabel Spiegel and Janet Crager, follows.

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INTRODUCTION

SPIEGEL: CMDNJ

Our object was to gather together all the users of SUNY terminals in the metropolitan area: Cornell, Downstate, Stony Brook, The New York Academy of Medicine, The College of Medicine and Dentistry of New Jersey, and Mount Sinai, which is about to get a terminal.

I do not think this session is going to overlap or duplicate the SUNY Workshop that will be held in Syracuse in May. Most of you know that every year the SUNY Network holds a workshop on formulation and machine problems and it is not intended for this session to duplicate that. We want to discuss particularly two different areas. First, we are interested in comparing our use of SUNY to what you are doing. We think there are probably some differences. We started our operation at the end of November, 1970. We have done quite a few searches and we think we are doing well, but we would like to put ourselves in context with everybody else and see how others are using the system. We would like to know for example, if you use the "query" cycle, who you use it for, how you operate that; if you do searches for outside patrons, etc. Secondly, we'd like to talk about whether we are using SUNY properly and what I mean by that is, do we use SUNY when we should be doing manual searches or do we use SUNY when we should be using MEDLARS. I think here at New Jersey we've done both of those things and although it may not be disastrous, at the same time I think we should try to find out what is the best time to use SUNY and how best to fill the patron's needs.

We enjoy operating the terminal and formulating the searches, and also since we have paid the money for it we sometimes think we'd better do a SUNY search in order to get our money's worth since its value is enhanced the more searches we do. But that's not the best criteria to use. I think the best criteria probably is: what is the best thing to do to fill the patron's request? If a MEDLARS search is more applicable, then that's what we should be doing and yet we don't do that many times. This is an area where I think there could be a great deal of discussion and I'd like to get some of your ideas.

We want to keep this session informal. Please speak up any time you have a question or an idea or a thought. This is not going to be structured. We'll just get it going and then talk about whatever we get into and hope that the exchange of ideas will be worthwhile and beneficial for all of us. I'll start off but please all of you, if you have any questions or ideas, join in.

PART I

COMPARATIVE USE OF SUNY

"QUERY" CYCLE

SPIEGEL: CMDNJ — The "query" cycle is something we don't use here at all at the College. It was played down when I went to Syracuse for my training because of its limitations. Originally I believe, when the system was developed, they emphasized the "query" cycle and the layman actually using the system himself. I don't like it particularly because it seems so inadequate since you get only the 10 citations, but I'd like to find out if anybody else is using "query" and what you're doing with it.

LOWE: CORNELL — At Cornell we tried to use "query" at the beginning and we instructed a few people, but you have to be with them all the time because they don't understand how to formulate the relationships. Then we got busier, we couldn't give the time to the people. We have many searches and we just have to use it ourselves all the time.

SPIEGEL: — So nobody at Cornell is using "query" at all?

LOWE: — We don't use it now.

SPIEGEL: — We never even got into it. When we started here we had one or two people interested. We had faculty demonstrations and we showed them what it was. They did ask if they could use it themselves and a couple of them did do "query" searches but that was about it. We really have never done "query" any more.

LOWE: — And then they use it so seldom that you have to be with them the next time they do it. So we don't bother.

SPIEGEL: — What about at Downstate? Do you use "query?"

MARIN: DOWNSTATE — Well, as far as the user is concerned it is practically never done because the users don't manipulate the terminal. But I think the "query" search is good because it goes through 5 data bases. If you think that there are not too many citations to be retrieved, "query" certainly is an advantage. But as to letting the user play with the terminal, I never do that simply because it would take too much time. In 90% of the cases we formulate the search. They fill out the forms and then I do it in their absence.

SPIEGEL: — And they're happy with that?

MARIN: Yes.

SPIEGEL: What about at Stony Brook?

TANEN
STONY BROOK: I find most of the time they don't even want to be bothered and they don't think of words that you would think of to formulate the search. They're perfectly happy to come back later when it's ready. Once you get an idea of what they want, you can play with it yourself.

READ:
CMDNJ: It seems as if the "query" search would be particularly good for students. Most of the faculty want in-depth searches, but so many of the students come down asking for citations for a patient who just came in with a disease, and they expect quick results. The "query" search could solve that problem, but again you have to spend so much time with them. We also have many students writing very short papers or doing quick research on one subject, that isn't covered terribly well in the texts. They don't like to use INDEX MEDICUS particularly, and perhaps the "query" search would be suitable for them.

GROSS:
DOWNSTATE: We find that students come for the same purpose. They just want a couple of articles on a certain subject. But I am not overjoyed with this computer - I might as well go on record now. I feel in that case, if you just give them CURRENT MEDICAL REFERENCES, you will get the few articles they want, and you don't have to bother sitting down with the computer and formulating a search. To me it's just a waste of money having the machine there. You just go order more copies of CURRENT MEDICAL REFERENCES in that particular case.

LOWE:
CORNELL: That's an example of a situation where you have to use your judgement. When a reference question comes in, what's the proper way to go about it? What tool is the right tool?

TILLEY:
CORNELL: But then again you ask how many they need and you say, "We have online from 1967 to 1971." "Oh, that's fine." They don't realize how many articles they need or how many would be sufficient.

LOWE: Yes, and I find too, that the students are the

hardest to formulate a search for, because they don't know the field, they don't know what they want, they don't know what they're looking for.

MARIN: DOWNSTATE — But I don't understand why people are against "query." "Query" is not just for users who want to play. You can use it with shortcuts and you get 5 data bases searched at a time. You don't have to wait for each data base.

SPIEGEL: — My feeling whenever I get a search, is that I want to try to miss as little as possible and when you say, "How many citations do you want?" - I never think of asking the patron that. I ask them how many years they want searched and part of my thinking on that is that maybe if he says, "Oh, about 10 or 15 citations would be OK," perhaps the 20th citation would have been a really relevant one if I would have gone down a couple of more data bases, and that's what I don't like about "query."

HERRING: N. Y. ACAD. MED. — Isabel, there's a way to get around that. You can ask him to estimate how many relevant citations he thinks there are.

SPIEGEL: — And what if they have no idea at all?

HERRING: — Well then you're in the same place to begin with.

TANEN: — Generally, if I get someone who has no idea then I tell him to start using the INDEX MEDICUS first until they have a better idea of what literature is available.

HILL: MT. SINAI — Most of your research men know whether there's going to be a great deal or nothing.

SPIEGEL: — But even then, suppose he says, "Well I think there might be 10," and maybe that's off the top of his head. What if you do 5 data bases and you didn't go on from there, and then perhaps in the 8th data base there would have been that perfect citation that would have given him all the answers. And I'm always thinking, in terms of using "query" or even doing any kind of search, I always want to do all the data bases so I can get all the citations. And even when we get into range statements, as soon as I see 10 citations come out of any one data base, I get upset because I think, who knows what we're giving him. Maybe the 25th citation in that data base is the good one. And are we going to spend our time to get out that 25th citation? That's what I wonder about when you say, "How much to give the patron?" I was speaking to Mr. Rosenstein about it and he felt that it wasn't that serious a problem because if you get a few citations that

are on the topic, there are going to be references to that "wonderful" citation.

HILL: MT. SINAI — I think to me it's more relevant to talk to the doctor about what he thinks has been done; when did this substance come into being, etc., so I have more of an idea of what I'm expecting. So if I go through all the data bases and get nothing, then I'm not going to sit and reformulate the search thinking I should have done it some other way. Whereas if he thinks things have been done, for example, in 1968, when this first came out, then there's no sense searching back to 1964.

TANEN: — One thing wrong with the "query" search is that you're querying the book and journal data bases at the same time and you really have to use separate formulations.

HERRING: N.Y. ACAD. MED. — [to Lienhard] You won't let us repeat a search in "direct" line from one to the other [journal to book data bases], yet you're doing the same thing on the "query."

LIENHARD: SYRACUSE — One question that we've asked quite often is, "Should we just stop 'query' all together?" What's the consensus here?

LOWE: — Well, we've stopped it. We don't use it.

SPIEGEL: — We just don't use it.

MARIN: — In most cases we don't use it, but I say that if you expect few citations and the user tells you there may be few or nothing and he still wants the book data bases, then you have the advantage of searching 2 book data bases and 3 journal data bases at the same time. And as for entering the search, it takes a very short time because you use shortcuts.

LOWE: — It depends on your search formulation whether you would even want to bother to put it in on "query." If it happens to be a few words, fine, but if you get about 30-40 words, you don't usually want to be bothered with the "query."

HERRING: — In regard to what we were saying on the "query," if you [to Lienhard] were at the point where we could put 4 repeats through at the same time in the "direct" format you'd keep the advantage of the "query" but without having to have the books separate.

MARIN: — Yes. You get 3 data bases searched.

LIENHARD: SYRACUSE — What you're saying is, user ease would be such that if you could say, "I want the last 3 data bases automatically searched on this one," then that would be helpful. Right?

MARIN: — If there are many citations then you gain nothing because it may stop in the midst of the first data base and you have to repeat it in "direct" search with range statements, etc. But if he tells you there might be few or nothing, then you do get an advantage because it searches 3 data bases of journals at once and then you can continue it with the "direct" search if necessary.

HERRING: — But as far as the "query," the idea was actually for the user's ease in using the system.

HILL: — That was the big pitch in the beginning definitely.

LIENHARD: — Well the question is, should it be, or do we agree that users can not really expect to do good searches on the system because of the restrictions of the MESH vocabulary?

HILL: — Well initially it was not a practical idea anyway. It was idealistic but really not practical.

HERRING: — I think if I had to try to explain to somebody how to use this system, I could do it much better with the "and" and the "or" than trying to take them through the "query". So if my user wanted to use the machine himself, I feel no handicap in not having the "query" vocabulary.

LIENHARD: — You see, what I'm really getting at is the deeper point - how often should a user really go to an expert who is familiar with the shortcomings of the limited vocabulary? Or how often could you expect that the user would do satisfactory searches if he did have access to the terminal?

HERRING: — Not very often.

READ: CMDNJ — Users don't even use the card catalog correctly.

TANEN: — They can't even use a printed index adequately.

MARIN: — I would say that from the very beginning this user-oriented system has never been quite true, because it is a waste of time for the machine and the student or the user.

HILL: At Mount **Sinai**, we're planning to keep it definitely within the library staff and not even advertise it.

HERRING: If you do get the exception to the rule though, it's still not that difficult to use it.

TANEN: They can still use it "directly." Anybody who wants to sit down and take the time to learn it - it's just not that difficult to do a "direct" search.

HERRING: That's right, because it's not going to be any more confusing for you to explain the way to enter a "direct" search than for you to interpret what they mean in the "query."

BOOK FILES

SPIEGEL: What about the book files? Do you search the book files extensively?

LOWE: At Cornell we search the book files because they request them.

SPIEGEL: Do you do it routinely?

LOWE: No. Only when they request it, but over 90% request them.

SPIEGEL: And how successful do you find it? Do the patrons think the titles are relevant?

LOWE: You just don't get much back and particularly if you use any subheadings or scans. You get back nothing.

HERRING: You can't do that. There's only a small portion of your book data base that's depth-indexed, which would be the only place you would hope to get anything.

LIENHARD: Yes. The rest is just the NLM catalog.

LOWE: Yes, but sometimes you find some more documents in NLM that you wouldn't expect. I've been surprised and gotten books and documents back in the NLM file.

SPIEGEL: At Downstate do you search the book files extensively?

MARIN: We do, I would say, in a majority of cases - 60-70% - but whenever you get any citations out, it is always from the NETBOOK data base which was indexed in-depth. NLM CURRENT CATALOG is practically useless. It is always "keyword not in dictionary," "keyword not in dictionary" and that's it.

TANEN: Generally your book data bases are wasted because if you're formulating for your journal data base, you're not going to get anything in the books, and if you're formulating for the books, then on the journals, it's going to be too general.

MARIN: From NETBOOK you will get relevant citations because they are indexed with the same terms as the journal literature. So you have a chance - there are 8 or 9 thousand citations in-depth indexed.

LIENHARD: The only thing I would say there, is there are relatively few and they are not kept up to date right now, so the 9,000 or 10,000 that we have end up somewhere in around 1968 or 1969.

SPIEGEL: They're not adding to NETBOOK or NLMBOOK?

LIENHARD: No, we are not adding in-depth, because the in-depth does need indexing and that is a matter of having adequate personnel.

LOWE: What about the symposia? Are you adding those in depth?

LIENHARD: Right now we're not, but we're hoping that we will find enough manpower to do this, one way or another, because we do feel the symposia and other proceedings of conferences are very important.

MARIN: If you ask for locations for a book, they will tell you, Syracuse. You see, if it is NETBOOK, there is a very slim probability it might be Buffalo.

LIENHARD: No, I don't think so. The way the system worked was that if Syracuse had the book, then it would be listed under that location, with call numbers for the other locations appended. But the whole emphasis was we were going to try to be the center and I think that's understandable. But what this does is that you can very easily get that impression, as you have [few titles at locations other than Syracuse]. I don't think it's true though, because there are many books that came in first for example, from Buffalo or even from Downstate.

But is it really a good idea to have the common book holdings there with call numbers for a specific title? Is it worthwhile or is it true, as some people say, that most information you find in books is already outdated by the time you get it, and therefore to go into this kind of expense, and it is considerable, is just not worth it? I'm just a technology-oriented person. I could build you a nice data base like that. That's not the problem. But if librarians tell us that it's not really worth it...

SPIEGEL: It may not be worthwhile for the users because you can usually find the book in the area.

LOWE: Or even if you look in your own catalog. You may have many books that they want.

MARIN: A collection like Downstate has, I would say, 80% of what is needed, and if we don't have it, then they can get it in the metropolitan area. So it is good perhaps, for Rochester or other remote locations.

READ: Ninety-seven percent or something like that of the interlibrary loans are in this area. A tremendous amount, so that you don't really have to go outside the area to get anything.

AUTHOR SEARCHES

SPIEGEL: What about author searches? Have you done very many author searches? You can do them by the "query" cycle, can't you? I don't do them, but I was wondering whether any of you did.

MARIN: To tell you the truth, I practically never do them.

SPIEGEL: You don't get very many requests for author searches? We get a few, and we usually do them by hand now because we're not sure what keyword to search under by the "direct" search. Often the patron might know the author wrote on such and such a subject, but if we want to be comprehensive, we're not sure we're covering all his books or journal articles, so we do the author searching by hand, and I was wondering if anybody did author searches on the terminal.

MARIN: Sometimes you get a request for a subject search and they tell you there is this author. Then you use the scan feature which is not recommended. It's very easy to locate authors manually, so I don't think it's really necessary to use the terminal for that kind of thing.

SPIEGEL: But what about doing author searches on SUNY without having to search under a keyword - that I'd like better because then I'd be sure I was getting all his works.

HERRING: Well, we can't even do that with MEDLARS. It's a nice thought, but we can't do it because of the way the material goes into the file. There's no cumulation under authors' names. If there were a cumulating file for each author, there would be no problem.

SPIEGEL: Well, I thought computers can do that kind of thing.

LOWE: That's what all the people tell us.

LIENHARD: You can do that right now. You can sit down right now and look for Jones as an author.

SPIEGEL: But you have to be looking under a particular subject.

LIENHARD: Well, not if you take "human." If you take "human" and "nonhuman" as your keywords, then you look at every item in the file. And then it's going to be one of those things that takes 40 or 50 minutes. But the point is, it could be done.

HERRING: With an author, there is always the alternative of using the printed Index, whereas with the title scan, frequently it's the only way you can find something. You don't have an alternative method.

WAITING TIME FOR PRINTOUT

SPIEGEL: Another area we're interested in is, how long do you tell your patrons that it's going to take from the time the patron comes to you. The reason I'm interested is, I have these high flown hopes, "Oh, yes, we'll have it for you tomorrow." Theoretically, SUNY should be able to give you something pretty quickly and often it does, but many times I find myself quite embarrassed because of some breakdowns or problems. What do you tell people?

LOWE: We've had the experience of having some extra computer problems, so now what we do is, we say, "If the machine is working, we'll get it to you."

SPIEGEL: But in how much time? If someone walks into the Cornell Library today, this morning, and says, "I need a search on this," and you formulate it with him, when will you tell him he can expect it?

LOWE: We try to get most of them done offline and the reason we do that is sometimes we have to wait as much as 20 minutes between data bases, and if we do one search for somebody, we could spend 2 hours just trying to get the online data bases.

SPIEGEL: That's what we've been doing regularly.

LOWE: So we found out that if we get a big backlog, we can't do it and most of the requests we get are for research work, so people can wait. We used to say about 4 days, but we're not even getting it in 4 days, so now we say, "About a week, can you wait?"

ONLINE VS. OFFLINE RUNNING OF SEARCHES

SPIEGEL: [to Lowe] So you actually have your online files run off-line at Syracuse? Is that it? 1968-1971?

LOWE: That's right. You see, people are doing a lot of research projects and they don't care. A week is fine. But sometimes they want it in a hurry and then we try to do it, but we stopped promising, because, for example, for the last 3 days we can't get anything online because the machine isn't working.

SPIEGEL: I'm very much interested in what you said, Doris, about running a lot of your searches offline. Do you do most of your searches that way?

LOWE: Most of them, yes. If there's a patient in the hospital, we'll do it right away or if for some reason somebody overpowers us. Like the medical student who has to get his report in right away.

SPIEGEL: At Downstate, do you do a lot of your searches off-line completely, as Cornell does?

MARIN: I do only offline data bases offline. Usually online data bases I search online. And everybody has to wait his turn. Those that are not in a hurry are the last ones.

SPIEGEL: At Stony Brook, do you do most of the searching on-line of the data bases or do you do what Cornell does and put them offline for 1968-1971?

TANEN: We don't have the volume that Cornell does and so I can do it either way. I do some online just to see what I'm going to get and if it's what I want, then I'll do the rest offline. I usually give the doctor the first 10 or 20 citations to make sure it's all right before I do it offline.

TIME SPAN COVERED IN SEARCHES

SPIEGEL: I'd like to know, do most of your searches go back to 1964, or are most of them back to 1968?

LOWE: Most of the people want as far back as they can get and they'd like it back to 1950 if it went that far back.

SPIEGEL: I'm glad to hear that since we've had the same experience.

At Stony Brook, do you usually go back to 1964 or do you encourage them to be satisfied with fewer years?

TANEN It depends...I very often use it in conjunction with MEDLARS.

SPIEGEL: And at Downstate, do you usually search back to 1964 or does it vary a lot?

MARIN: Almost always. Whenever they want an offline search it is back to 1964. And most searches are done on all online data bases or both online and offline.

SCAN STATEMENTS

LIENHARD: It's the user load that causes the slow response time and also during the day the users formulate more difficult searches. If you formulate a scan, it does put considerable demands on the system, and if you formulate a scan where perhaps a keyword that preceded it is misspelled, or it's just not in that dictionary or that particular data base, then it can take a half hour to look at everything in the file, because the poor computer then has to look at almost every citation.

MARIN: Would you say that if you have 1 vs. 2 scan statements in one search, e.g. language specifications, "Give me just English" vs. English and French, would that add to the problem?

LIENHARD: Yes. Every "if" statement-in effect, anything that's between quotes-is a scan, and the computer first takes the keywords that you have entered and it goes into the data base and pulls out the document numbers that satisfy those restrictions, so that you end up with a long list of document numbers that satisfy those keywords. Then it goes and looks at every one of those documents to see whether or not it satisfies whatever scan statement you have. Now if it's language, that's relatively fast because language is only 4 characters. On the other hand, if it's title, what it does is that it takes whatever string of characters you give it and it looks at every character in the title.

HERRING: You could reverse the order and put the language restriction first and then scan the title.

LIENHARD: Not right now. This is something that we've been thinking about, but the only way we could do it would be to physically separate the data bases into English and some preferred foreign languages in one, and the others in another, and again we're toying with that idea and we're just not sure whether that would be the best approach.

SPIEGEL: I was a little upset when I read the Newsletter that covered the title scan and how much we're using them.

LIENHARD: It was strictly a compilation of all the problems that we've had. I don't want anybody to feel that the examples were specific, because let's face it, where we sit we can see that one day somebody out west has a real problem with a search and then next day it's down here and next day

it's in Washington and the people that use it the most are usually the MEDLARS searchers. I think they use title scans almost more exclusively than anyone else.

HERRING: And the reason we do is because we're getting a high percentage of requests coming in requiring scans. We had one the other day; she needed to know, "Phase and synchrony in electroencephalography in humans." Now there's just no way to get that out unless - I cringed - but I put "electroencephalography" and "human" together and then title scanned on the words and I got maybe 20 citations out of the whole thing, but it was the only way I could get the material.

LOWE: But that's the advantage of the system over MEDLARS. You get material that you couldn't get any other way.

HERRING: Yes, but the title scan is deceptive too because you're also missing material.

LOWE: But isn't it better to miss it than to get nothing?

SPIEGEL: The thing is, you probably are getting citations that deal with that subject, but you don't know which ones they are. It's imbedded in some article and you actually have to go through a lot of literature to get to that article.

HERRING: Well, that's the whole point. Half of what you get on a MEDLARS bibliography - it's not in the title. It's in the article and when you go through the title scan you're just skimming off the top of what's in the file on that subject.

MACHINE PROBLEMS

HILL: What do you find is the average time you wait online after you've put in your search, for an answer?

LOWE: Anywhere from 1 minute to 20 and I've even timed it to 25 minutes.

HILL: Once I sat 40 minutes and then the message came back that the machine had lost everything.

SPIEGEL: Sometimes you can't know the terminal is down. You have entered a search and you think it's just the waiting time when really the system has gone down.

LIENHARD: Well, I think the problem that we're looking at here is really a number of problems that can happen. One of the problems that you as users particularly in the metropolitan area seem to face is that there can be problems with telephone lines that can affect you in terms of the quality of output you get. The terminal just keeps typing garbage. The other, of course, is that you can have a terminal failure and you know anybody can have that and that does happen. But it seems to happen more often with the people also having line problems. Don't ask me why.

MARIN: The line problem, in fact, is much more frequent I would say, because whenever I had a problem, it was always the line and never the terminal. And I would say the longer the line, the more problems are likely to occur.

LIENHARD: I think it's the location of the line. In other words, in New York City, the telephone company just does have a problem - they admit it. And the problem was so bad for instance, that we could not get continuity from Cornell to the nearest central office for over a month! So that is a problem that does affect you as users. And the other problem we have is that sometimes users cause the machine to fail because the search is not properly entered and the machine expects something that is not there. It eventually aborts and then we do have to restart. At that point, generally all but the one "bad" search will automatically - well - may restart again. Of course, the trick is to know whether or not it was your search which brought the system down. And every once in a while it can really cause us a problem because that person will repeat the "bad" search unknowingly and then we go down again.

SPIEGEL: We get notification from you when that happens, sometimes, that is, when we are responsible for the "bad" search.

LIENHARD: Yes. It can happen to all of us once or twice and there's nothing we can really do, except it's very annoying to the other person who's got some professor looking over his shoulder.

TILLEY: CORNELL Is it always a "bad" search that causes the restart? Or could it be something else?

LIENHARD: No. It can be one other thing, which is a computer problem really. Our system has been developed over the last 3 years as an experimental system and at the same time as an operational system, which means that if you look at the programs and the way they hook together, it gets very complex. If somebody had really approached it with just one thought in mind, it wouldn't be this way. You see, this is the problem of having had many people and different directors and managers and what not. It's like a building where you hired a new architect in the middle and you changed styles. It goes from gothic to baroque. This is somewhat our problem. We have however, in the last year certainly tried to improve the areas where we could do it, and the system doesn't go down as often any more as it used to. I don't know whether you can tell that.

MARIN: I think so.

LIENHARD: And we've tried to make some other improvements. For instance, the "query" language has been changed a little bit. Again within limitations which already are imposed on it. So there are some cases where the system will fail not because of user errors, but because, in effect, of a shortcoming at our end.

TILLEY: And you can always tell when this happens?

LIENHARD: We can tell when it fails, where the problem was, whether it was a search that was put in or not. But you see, what we do is, when it first fails, we can tell that it might be a search, but we can't be sure. It could have been just a bad character coming over the line also, you see. So we generally try to just restart it instead of keeping people waiting on the chance that it is not really a bad search or if it was a "bad" search, it was more of a search that next time will go through properly.

HILL: What do you mean by a "bad" search on the part of the user?

LIENHARD: Well if you forget a semi-colon, for instance.

HILL: This will bomb you out? But you see, now in the book it doesn't warn the user of all these things. I wondered

if there were a list of cautions, but I found nothing.

HERRING: If you leave off one of the apostrophes that would also bring the system down.

LOWE: I'd like to ask you something. I put in a search and it just threw everything out and I got a message through telling me it was one of my scans. Now I was doing a search and I had used a drug code number for the scan - not a word - and it was something like "RO-5023." I used a code number for a drug because that was another way of catching it and so I finally put it back without the code number. And I wasn't sure then whether my problem was that, or I could have left off the apostrophe at the end of the line, but at that time I think it was the code number.

LIENHARD: OK. I'll have to check whether or not drug code numbers could do it or whether it was the apostrophe at the end of the line. One thing that I call a "bad" search which you might not call a "bad" search, because I have a different outlook, is a search that might take a 1/2 hour or 45 minutes because a person ended up using an invalid keyword or made a typing error that made the keyword invalid. In effect, now the computer doesn't recognize it if it's an "or" statement, "human" and something very specific; well if the something specific is misspelled then the machine goes and looks at all the "human" citations, and it takes us a long time to execute that search. So to me, it's not something that has bombed the system if you want to use that term or has caused the system to fail, but it has made everybody else wait.

HILL: But don't you think it would be helpful if you did make a list of the things that could bomb out the system?

LIENHARD: Yes. I have that note right here.

QUANTITY OF INFORMATION AND USER SATISFACTION

LIENHARD: May I ask you, what are really the criteria that you use to determine the amount of information that you try to retrieve for an individual? I'm asking this because NLM has done some rather detailed studies which prove that the size of the data base has nothing to do with user satisfaction. Theirs is an absolutely linear curve whether you have 400,000 citations or 500,000 or 600,000, or a million that are online. That's pretty reasonably well shown. These are statistics they have accumulated. I don't think I can judge how valid they are. I'm just saying they seem to take the position that a user doesn't need all that information, initially anyway. Later, if he really needs it, you can do 2 or 3 or 4 searches. The question I have is: what is the philosophy of the people here in trying to give user satisfaction and to give him adequate information? Do you have to give everybody all the data bases?

TANEN: It's dependent on the individual.

HERRING: Well, that's what we keep saying about MEDLARS - it's tailor made and that's exactly what it is. One user may need 10 citations; the next one may need every data base.

MARIN: I usually ask him if he'd be satisfied with 10, 15 citations or if he wants all the data bases searched online or perhaps even those offline going back to 1964. Sometimes I forget to ask him, but he tells you, "I want everything."

HERRING: Some people will take literally anything that was remotely connected to what they want because there's just no information on it, so in that case you'll do what we call "scraping the bottom of the barrel." You'll come up with everything you can. And others - you know it's going to be a huge thing before you start, and they don't want to go through all of it, so you begin to narrow it down. So it is completely an individual situation as to how many data bases or how many citations.

LIENHARD: Could I ask then, whether for instance, at Cornell, you make an effort to restrict this?

LOWE: No. I'll tell you what the problem is: sometimes you start getting a lot of searches. If you could count on getting your material back with 5 minutes between data bases, you could do them. But when you have to wait 20 minutes and then something goes wrong in the bargain - we got to the point where we've just got to put it through offline, otherwise we won't even get the search.

TILLEY: Well, many times also, let's say they have their references, but they want to compare to see if they've missed any or they're just beginning a new topic and they want you to find everything.

READ: Yes, we've had that too. People who are applying for grants want to know how much is in the area.

HERRING: For grants you ought to shunt them off to MEDLARS. On something like that, if you get to run your statistics, do a projection from statistics to give him the number of probable citations.

SPIEGEL: Mr. Lienhard, I think Dick Benack said something about taking 1964 data bases off the system altogether. Is that a possibility?

LIENHARD: Yes, because what happens is, as new information comes on, the older information certainly can't appear on the online and now one other thing that happens is that the MEDLARS vocabulary changes, so that quite often when you do some searches, you find that in 1964 that keyword didn't exist so you have a problem. I don't think that at this point in time we're going to make that decision, but it's possible. Again, I was quoting those NLM statistics earlier. If they're right...

HERRING: There's something I may as well tell the MEDLARS users right now anyway: 1964 through 1966 has been dropped from the back file. You can now get material only from 1966 forward and the current file is now searching 1969 through 1971.

SPIEGEL: Are they ever going to be able to have that capability again? 1964 through 1966?

HERRING: They don't know at this point, but they've just taken that portion off the file, so the back file at this point would be 1966 through 1968.

SPIEGEL: 1966 through 1968 is the second portion. You don't get that automatically.

HERRING: No. You have to evaluate the current and then you can get the back file.

LIENHARD: Again, I guess the question is, how valid and how relevant is old material?

SPIEGEL: Some of our users seem to think it's very valid and very relevant.

HILL: Depends on the subject, what they're working on.

SPIEGEL: Yes, that's true. But many of them say this is when this was worked on - 1964.

HERRING: And of course, the classic paper that they want to go all the way back to is 1935 but you can't do anything about that anyway. And if they are going to do a comprehensive study of their bibliography, they will pick up in their references for the last two years, the key articles anyway.

SPIEGEL: Yes, I think that's some comfort anyway.

LIENHARD: Right now, that decision on what we are going to drop will depend on the amount of storage we will have available with our new computer. We are going to have a new machine, so things are going to have to be handled slightly differently. But right now you can see how tight we are by just looking up what's online. Because that's everything we can get on.

CHARGING FOR SEARCHES

LIENHARD: This lastyear certainly we've been more money conscious and at all levels, federal, state and local, and one option that has been pointed out that we would have is to charge the users for searches. I'm only pointing this out to put things in perspective. We have not made any decision on this, but I understand from other users, the moment they said, "Well, doctor, from now on it's going to cost you $5.00," or something very token, the rate of usage dropped astronomically, like 90%. And so the question I have is, is this just the "green stamp" philosophy, as I call it? Because when the man asks me at the gas station, "Do you want green stamps?" I say, "Yes sir." I want them if that's what I'm going to get.

So here, if you ask the man if he wants everything, "Of course I want everything." And what I don't think we've studied enough is what the man does when he gets 100 citations. Does he really use them or does he eventually throw them out? Now we have some people that call in the searches and we ask them a few questions and then run the searches and they don't show up for a month or two. I wonder how much they really needed them.

LOWE: I think we get a real need, because our interlibrary loans have gone up and even foreign material requests have gone up considerably. We never had this much last year.

LIENHARD: I think that if you can give them a little bit more, it's good. But then when it starts to cost so much more money, people start worrying. And I was just pointing that out and wondering whether on an individual basis at your libraries, you could end up saying to somebody, "Well, we only will give you a few years and then beyond that, if you want more, we are going to have to charge you a token sum. It might not be very much."

HERRING: You might do what we do in MEDLARS. Before someone can get a backfile, they have to evaluate the current file.

TANEN: Yes, the first 10 citations, see how that is.

HERRING: And we tell them, "We'll be glad to do more, but you'll have to evaluate what you've got first so we have an idea of what you're going to get." Now that you can institute without any charge.

LOWE: Yes. But that makes double work. Then you've got to put the search in all over again for the earlier files. And

if you're carrying a heavy load already, you just can't find the time to get it all in.

SPIEGEL: Do any of you charge departments?

LOWE: No.

SPIEGEL: We don't either.

LOWE: I think you would kill your service off right away. And the only possibility would be people paying you if they had money in some kind of a fund. They certainly never would pay for it out of their pockets.

SPIEGEL: Right. We charge our departments for photocopies. Maybe something like that could be set up to charge them for searches. We're not planning to do it as yet, but perhaps it's a possibility for the future.

WAITING TIME FOR MEDLARS SEARCHES

HERRING: If a patron really needs that much information and he can wait, he can wait 2 or 3 weeks for a MEDLARS search and get it in one pass.

HILL: But Carol, are the MEDLARS searches coming in 2 or 3 weeks or is this more or less the ideal?

HERRING: No, we're actually running an average over the total months, of 25 days per search. Now some searches have the very bad misfortune of landing in a batch that NLM decides to send off to somewhere else to get processed, but the average - we keep a monthly average - and we're running around 25 days for the average. But there's a portion here and there's a portion here. Some are coming back in 9 days, some are coming back in 50.

HILL: Because I think at Mount Sinai we feel 4 to 5 weeks is pretty much what we've been getting.

HERRING: You may have been hitting the odd one, but it depends on how the search got batched when it went for processing. If you hit the wrong batch, you're going to get it in as much as 6 weeks.

LOWE: Well, then you can't say in 25 days, because to the person who wants to know, if you're the Reference Librarian, and he'll say, "Yes, I can wait 3 weeks," and then it doesn't show up until 6, which has happened to me, it's very embarrassing.

HERRING: Yes, but it also happens to SUNY because you can predict it in a couple of days and it takes a week.

GROSS: Downstate Experienced MEDLARS users, though, realize that it does take a lot of time and they usually do come in a month or two in advance and say, "I am planning in the next month or two, to apply for a grant on such-and-such and I'd like to know everything," and they allow for this.

LOWE: Not our people. They want it in a week. They're putting in a grant in a week and...

GROSS: I think that's because we're a state institution and they know.

TANEN: But that's where you can use SUNY combined with MEDLARS. Give them a few citations to begin working on.

HERRING: Put a SUNY through and submit a MEDLARS at the same

time because we do that too. If we get one that we figure, "Oh my God, we're in a bad route," we give them the first say, 3 data bases or something like that, and they've got a place to start with, and the rest will be through in another week or two.

TRACINGS

TANEN Is there ever going to be some way, perhaps offline, to get the tracings?

SPIEGEL: That would be beautiful.

LIENHARD: That is something that we've looked at for a long time. Right now, it would take some extensive programming to get that out. We do have them there but not in letter form. There's just a little number up there which somehow ends up meaning what keywords we're talking about.

TANEN: But even if we could just get the numbers and then have our dictionary.

LIENHARD: No, it's not that way. That's the problem. It's just computerized. This is something that we've really looked at to see whether we could do it, because that is a very useful thing, if you're not sure how to formulate a search. You get a few citations and then you look at them and if one is relevant, then you can say, "Ah, let's look at the other keywords they use. Now I can go formulate a search."

HERRING: It would also build the searcher's facility with the system because he would learn from everything that came out much more clearly than he can now, because he sees, "Oh, that brought all this bad stuff" and, "that was pretty good." So you can learn from your actual printouts if you had the tracings to study.

TANEN: Besides which, if you know the system of indexing, then if the title doesn't seem to be right on, you know this article is still dealing in some way with what you asked for. But the user doesn't know that now.

SPIEGEL: Well you have to point that out to the patron.

TANEN: I know, but they don't really believe it unless they see it.

MARIN: They usually discard it, judging by the title. But unless the indexer has made a mistake, then there should be something in that document on the subject.

LIENHARD: On the other hand though, that seems to me to point to the need for education of the user. I mean, if you go through all this trouble with the computer system where you show him, "Look, I searched under these 2 terms, so the computer couldn't very well make it up." I was just thinking - this adding tracings does add to the ease of using the system and I'm just wondering again - I want to get back to the subject we

talked about earlier. Is it really necessary to have something that is very easy to use that allows, ultimately, a doctor - somebody who is not trained in the idiosyncrasies of the MESH vocabulary - to use the system, or will we always, regardless of how nice it is, end up needing the trained person between the final user and the system?

TANEN: Unless you can get it to a natural language thing, which they talked about for MEDLARS II, with the mapping in the machine instead of outside, then I think you're always going to have to have an interface - a middleman.

LIENHARD: Well, in that case then, is it really necessary to make the system so user-oriented?

HERRING: Well, tracings are not meant for user-orienting. They're for the person who's using the system to get the material out. Right now, we could make much better use of your system - we would be able to eliminate a large percentage of bad citations, printouts that had too many things, if we could see the tracings. But we're working in the dark with the title. So it doesn't have that much to do with the user who's probably going to look up the citation if he's interested, and he's not if he's not. But we would have a much better quality control over what we get out of it. So it's not so much for the user as it is for the searcher.

TANEN: And also if you had that, you probably would then get this "print" and "nonprint" capability of asking for "print" headings and "nonprint" headings.

HERRING: And when you get that, you cut down on search time because if you could limit a big heading like a big volume disease heading or something like that and ask for it to be searched "nonprint" only, you've cut the file maybe in half. And if you have the capability of tying in a "nonprint" heading with a "print" heading, you'd get much more sophisticated formulation.

HILL: Actually these things are more important to work into the system than trying to fix up the "query" system so Dr. Jones can sit down and use it, from a practical point of view.

LIENHARD: Well, that is a point that I think I've had. My attitude has been that it seems we need a trained person in between. Maybe we do want to put it so that if Dr. Jones is interested enough he can get something out, you see. But it won't be easy so that everybody can just walk up.

HILL: But I think more of what Carol said would be of far more advantage to Dr. Jones in the end than trying to make it easier for him to sit there and type when he probably really

doesn't care about typing anyway.

READ: Very few doctors seem to really be interested in how it works. All they want is what is what comes out.

LOWE: They haven't got the time to spend most of them - they're just too busy.

SPIEGEL: I do think many users probably do eliminate some citations that perhaps wouldn't have too much but might have something of value to them, simply by looking at the title and saying, "Well, this title has nothing to do with my subject." We should warn people that titles are not to be gone by entirely, that still the subject is in there if that's the way the indexer indexed it. So that's something to keep in mind.

HILL: Well, this is something else too - you could tell from the tracings that came out for the citation, whether this was really meant or whether it was an error in indexing.

LOWE: It's nice to get the tracings, but you wouldn't want it with every single reference the way this thing prints out. I mean you have so much to print out. The only thing I would want is to be able to put a reference in and get the tracings. If I had a very specific reference and it was something I wasn't sure of formulating. I wouldn't want it for everything. I certainly would not want it printing out on this type of paper.

SPIEGEL: But how could they do it otherwise?

LIENHARD: By allowing you to pick only on the first one.

NEW SEARCH MANUAL

HERRING: Are you going to have a new search manual I hope?

LIENHARD: Yes. This is something that has been high on our list of priorities but we do have a people shortage.

HERRING: It's difficult to go for about 15 issues of "This happens, this happens..."

LIENHARD: The Newsletter, yes.

HILL: Well, something else too that Rachel and I found and this is the fact that there seemed to be so much talk along with the instructions so that when you're sitting at the machine, you have to go through so much in order to find what you really want, whereas if the actual instructions were set apart you could look and see them. We'd be flipping through with the machine on, afraid it was going off. It could have been a better format.

LIENHARD: One thing that we would like to do and this whole thing is going to be time-consuming because we're very short of staff and this is one of our problems - we don't have enough money - is that I would like to see the manual so that pages can be changed or added, inserted in the middle.

HILL: If you could do it as a loose leaf type thing similar to the way Brennemann's PEDIATRICS and those things come out.

LIENHARD: That's what I want to do.

HILL: Right. That would be much more helpful than a dozen newsletters.

LIENHARD: Well, the Newsletter will still have a function, but what I'm thinking of is that we add at the end of the Newsletter, a new insert or a changed page.

HERRING: If you would each year incorporate into the manual itself the changes that have been made in the Newsletter, it would be helpful because it's difficult to remember that in so and so, it told you how to do this.

TANEN: Yes. And you read it in the manual one way and then you have to remember that it's been changed.

HERRING: And then it may have been changed from one Newsletter to the next too, so what you read in January is not true in March.

HILL: I have one more thing and this is again from the point of a complete novice. And that is from reading your Instruction Manual, there didn't seem to be enough information for me on the terminal, the functioning of the terminal and especially when it started acting up. Was it the terminal? Was it the system? What was wrong?

LIENHARD: That's a good point.

HILL: I just sat there with lights flashing and I'd call Carol. For really using the terminal and the things that can go wrong while you're using it, this was not explained at all in the book.

LIENHARD: That's true. I think it was done initially on purpose because the idea was, the people would come to Syracuse and learn, and the operation of the terminal was something you could get pretty familiar with in a couple of days.

HILL: Yes, but we're going to try to turn the actual typing over to a clerical person and that to me should also be in print form because the person who's using it may not necessarily go to Syracuse.

LIENHARD: OK. Now that's why I do think we should have some more instruction in the manual. Now there is a trouble sheet out, a little flow chart if you do have problems. It tries to help you determine what the cause is and it goes from even I think, "Is your machine plugged in?" So I think, yes, in the new manual we're going to try to incorporate as many things as possible and since it's going to be loose leaf, it ought to be easy to add another topic if we find the need to do so.

AIM-TWX

TANEN: The advent of the AIM-TWX system - there are rumors that SUNY is taking that over, and NLM's taking SUNY over. How are they going to cooperate or are they not?

LIENHARD: We are right now discussing the exact extent of our cooperation.

HERRING: MEDLARS is thinking of expanding the AIM-TWX data base and using that as the MEDLARS data base.

LIENHARD: I don't think they're just thinking of it.

HERRING: Currently AIM-TWX covers 100 journals and only English language, so they would expand that to include more journals and other languages. Now whether it would go up to the 2300 titles covered by MEDLARS, I don't know.

SPIEGEL: So then it would eliminate a whole system that is already in existence. It would actually duplicate what is the current MEDLARS system. No?

HERRING: Not really, because I think it would be dating forward from some point. It would just replace.

MARCOLINA: N. Y. ACAD. MED. There are different phases. ELHILL 2 is supposed to go back to January.

HERRING: Yes, it was given more in the number of citations - 200,000 or something like that which would probably cover about 2 years' worth. Maybe more than that. Maybe 3 or 4. We had a rough idea it would cover 2 years if you use the total data base.

TANEN: Well you can - you will be able to use the total.

HERRING: No, I don't know yet.

MARCOLINA: No, that will still be offline mode - batched type of thing.

LIENHARD: The plans, as I understand it, are to increase the number of journals that are available to go out from under the AIM part. There'll be additional ones available, including some foreign language journals as well. Then there is the question as to exactly when this will be implemented, because they are going to need a new machine to do this. The existing machine can't handle that. They will need a decision I suspect also

as to whether only one machine will be handling it or whether there will be several. Then communications costs will also affect the picture, and so they have been looking at various alternatives there, and they're facing somewhat the same problems that we're facing.

HERRING: Isn't there supposed to be an Eastern Center also, instead of every thing processing through California?

MARCOLINA: N. Y. ACAD. MED. The trial region is going to be New York. It'll be New York and Boston and Philadelphia to be the northeastern corridor though here and I really don't think it's going to come off within the next few years, because I was just to a workshop a couple of weeks ago and it sounded pretty far in the future.

OUTSIDE PATRONS

SPIEGEL: What about searches for outside patrons? Do you only search for your own people?

LOWE: At Cornell, we've done a few for other people. We do it for our affiliated institutions, but I don't call those outside because they're in the system.

SPIEGEL: What about when it's really outside?

LOWE: Well, a few people pressure us and we do it.

GROSS: Are you open to the public?

LOWE: No. But if some doctor knows Mr. Meyerhoff and Mr. Meyerhoff says we do it, we do it.

READ: We've begun to do it and it poses a lot of problems. We do reference work for outside patrons. But we're really the only medical library of any size in New Jersey and consequently we probably have a public duty that some of the rest of you don't have.

LIENHARD: I hate to bring up money here, but you see that seems to be the problem.

READ: They have less money than we do, though.

LIENHARD: But at the same time, it is something that would be worthwhile.

READ: Very definitely, but New Jersey just is poor.

LIENHARD: Even a doctor though - it's worth something to him.

TANEN: The goverment has funded the Regional Medical Libraries to help these people. Philadelphia is covering the bottom half of New Jersey and Newark is covering the top half.

READ: Another problem with it is how can you justify to a doctor who, say, paid $20.00 to have you do a search, if no citations come out?

SPRUNG: CMDNJ Sometimes lack of citations is the answer they want.

LIENHARD: You see, our problem in effect, is if you push this now, on the existing system, or even on a bigger machine, we start loading it up again. Because you're going to use it to the

limit. And so at that point, it really is a financial problem for us. And the reason why you're with SUNY - I think one of the reasons is - it has better response time than MEDLARS. And so I'm caught in a box, because we always have the problem with money and the fact that we ought to charge more for the terminals. But when we want to charge more for a terminal, then people say, "We can't afford it." Then we get into that vicious spiral, because they are not going to pay for the terminal, so we have one less terminal which is less money and we have to raise the prices on the remainder.

PART II

ARE WE USING SUNY PROPERLY?

COMPLEX OR LARGE VOLUME SEARCHES

SPIEGEL: We've covered most of the questions I was interested in. If nobody has any other questions, let's get into the other area I'd like to hear about or perhaps we'd all like to hear about and that is: Are we using SUNY properly, SUNY vs. MEDLARS, and SUNY vs. manual searching.

Do you want to start us off, Carol, and tell us some of your feelings?

HERRING: Well, it depends to a great deal on the complexity of your search. I know I've been frustrated a couple of times with SUNY because there was something I needed to get out with a title scan, but knowing to cover that I would have to almost cross 2 categories, at which point I would say, forget it, because I would tie the machine up 2 weeks on one search. Now I think that's totally unreasonable and with the citation limit that you have, if you're dealing in terms of say, 10 or more headings, depending on how you cross them, you might be better off to go through MEDLARS because so much of it depends on how aware you are of how things are indexed, though. This is the biggest problem. I think my biggest worry about SUNY is that people are not as deeply aware of the fact that to cover something, they may need to use 30 headings and they're using 4 or 5 and they're saying, "We've gotten the material," but you haven't gotten the material. You've scratched the surface. So if you're going into it to the depth of trying to cover all the material there and you can't really use the treeword - the explosion, to any extent on SUNY, then you just tie the terminal up for one person for a length of time.

I know I set one thing up where I would have had 18 formulations if I had to do it on SUNY. And it took me one [on MEDLARS]. It was very simple search - for MEDLARS. I said, "this term, this term," and exploded. But it would have been taking it to break L1 with 3 or 4 headings and L2 with 3 or 4 headings and "anding" those and as I said - I had 18 different formulations and I was using multiple headings. Now that would be something that would tie SUNY up. So if you've got a search that's complex enough to take a large number of headings to cover, if you've got one that requires a great deal of strategy, maybe you need to use 5 or 6 different strategies to get at the same thing, that means you've got to put 5 or 6 searches through, it would be better to send those through MEDLARS, because we can incorporate those several searches into one search. And you would take a lot of time - I just think you would be using each system more economically. The other thing - if you've got a large volume, if you've got

a formulation that's going to retrieve a large volume of citations, I think it's much more practical to put one search through with MEDLARS rather than using repeats and range statements to try to get this much material out. Because when you get stats [statistics] on a certain thing and it says there's 80 citations in this one data base and you multiply that by all the data bases, you come up with a big number of citations and think of the time you're tying up that terminal to print out those citations.

SPIEGEL: When I was trained at Syracuse, I got to looking up all the terms from the white pages of MESH to the blue pages, putting them in their categorized structure. I tend to pick out a lot of terms. I do speak to the patron also; I say, "Do you think this is relevant?" I try to explain the rule of specificity, the most specific indexing for the most specific term. So most of my searches, or a good number of them anyway, are going to wind up with more than 10 terms. That's how I use SUNY and if that's not using it properly, then in most cases we wouldn't use SUNY at all, so I'm concerned about that.

HERRING: Well, I picked 10 out of the air, but it depends. The way I use SUNY myself, I never match more than 5 headings of this against 5 headings of that, so if I've got more than that, I'm just going to break it down into different formulations. Now you've got to figure out how much machine time you've got, how many users you've got and how much time you can justify for each user against the machine, because probably if you formulated the search to the depth that we would routinely formulate it in MEDLARS, you would be doing probably 5 passes at least, for each search through the machine. Do you agree with me Lee?

TANEN: Yes. I think it breaks down more to number of hits. Generally, there are several alternative ways of asking for the same thing and it's not just a question of this word or this word or this word with this word, or this word with this, but it's really different combinations that you just can't ask for straight out in SUNY, that you can in MEDLARS. It's more than just 10 words.

TRAINING IN FORMULATION AND WHEN TO USE SUNY

HERRING: But this is very difficult to tell to a group of people who have not been trained to formulate to this degree of sophistication. How do you explain it? I mean, each one of you would have to come look over our shoulders for a while and hear us say, "Now in this case I would try this strategy and here I would "and" this, and then I might take this heading and this heading and negate something else here," and I might work up with 5 different things in one formulation, where I would say, "In 1 and in 2 throw in a parenthesis," and use all of the capabilities that you had, but you are not as a routine going to be formulating to that degree of sophistication.

SPIEGEL: If we're not formulating to that degree of sophistication, then we're perhaps making a mistake, aren't we, in using SUNY?

HERRING: Well, you would get a much better use of the system if you had been trained to formulate to that degree, but you're not necessarily making a mistake, I wouldn't say that. But it's difficult trying to give you criteria that you can judge from, when picking the headings and trying to satisfy somebody's needs. Anytime somebody walks into you and says, "I'd like to have the effect of so-and-so and I don't care what virus it is," I would automatically hand that over to MEDLARS, because we can explode the viruses and get all of them in one whack, but if you tried to divide all the viruses into different formulations..., or someone says, "I want all liver diseases," - and you frequently get these things, like, "What kind of a drug is used to treat kidney infections?" or "What kind of drug is used to treat this?" And it's a blanket of one whole category against 1 or 2 things. Or somebody says, "I would like to know drug effects on the brain," but he wants every single part of the brain. You aren't going to get that by just putting "brain." You have to list every one of the headings underneath "brain." When you run into something like that, I wouldn't try to do it on SUNY.

TREEWORDS IN SUNY

LIENHARD: You know we've added the treewords.

HERRING: Yes, but only on one part of the data base.

LIENHARD: Yes, well, we can't go back too well.

HERRING: How much are you actually gaining by adding the treewords with the 10 citation limitation? There'll be many cases where you're just using lots of machine time for those treewords and gaining nothing.

LIENHARD: You've got a good point there. On the other hand, again, should we just get 10 or 20 very specific citations and then maybe do the rest offline? How many citations in effect, do you need before you just overwhelm the person?

HERRING: Well, I think you've got to have 2 systems existing. For one thing, SUNY lives off the MEDLARS data base, so if you try to replace MEDLARS altogether, you're going to replace yourself too, so why try to have one system do both things? Why not set a line that for something like this where there is large retrieval or something that would require big treeword use - now you can use parts of a tree structure which would be very good for SUNY, when you need 4 or 5 headings, but any time you're going to take "A8" - I'm going to throw up my hands in horror, because unrestricted use of treewords in SUNY is almost a nightmare to me, but that comes from having worked with the treewords on a different level. But where, if I could take a portion of the tree which might pick up 4 or 5 headings, then that would be very helpful. But I think even if you had the treeword capability, exploding a whole tree in SUNY is still not a good idea. You should then turn this over to the system that runs on the bigger processing side. I don't like the idea of having SUNY try to completely replace MEDLARS, but I think SUNY can save us some work. We have as much as we can do to formulate - we keep pretty busy. MEDLARS has a great deal to do and SUNY can take much of the load off us plus get material back to you faster, so the 2 systems should coexist. But when you're dealing with large heading combinations, for SUNY I don't think they're a good idea.

SPIEGEL: Do you think SUNY should primarily be used to give the patron a few citations and then routinely put in a MEDLARS search?

HERRING: No.

WHEN TO USE SUNY

SPIEGEL: What way do you think SUNY should be used?

HERRING: Well, in many cases, in a restricted area. There's not much written on it. I can do a formulation on SUNY and I may not get more than 3 citations back from any data base, and I'd say put it through all the data bases because it's not a large volume. When you get through you're handing him, in that case, as much as you're going to hand him from MEDLARS, because you're not running over citation limits. Whenever I have just 1 or 2 citations printing out for each data base, I probably would repeat that through all of the data bases, whereas if I were hitting 10 out of each one, I'd probably just do 2 or 3 and get a little further information from the patron before I would go any further. Because it depends to a great deal on the complexity of the search. If it is a fairly straight-forward search, there's no reason for you to use both systems, but if it is a very complex one, say dealing with, as I said, all of the brain or dealing with viruses or a large category of diseases, or if it's something that's going to be difficult to formulate, like having 5 different things you want to "and" together and you're going to have not just a case of 1 and 2, but you're going to have all the age groups you want to put over here, you're going to have a disease you want here, you're going to have a test you want done here and you want to have something else over here, well with the age groups and with the tests, you get huge volumes that are going to be matched across and you may want to "and" 3 of these and negate the other, and you're getting to too large volumes.

SPIEGEL: I would say for our operation, if we were to do what you suggest and put a good portion of those kinds of searches into MEDLARS and not approach them at all on SUNY, we probably would be turning about 40% of our searching - that's a rough figure I guess - over to MEDLARS. If a number of libraries in the area were going to do that, how would that affect MEDLARS?

HERRING: Well, it would be kind of difficult.

SPIEGEL: That's the problem. We've had quite a lot of broad searches that we've been trying on the terminal.

HERRING: But the thing of it is, don't turn them all over. If you've got to come down to living with 10 citations in each data base, OK, but don't take, as I said, the whole viruses or don't take anything that looks too complex. Now this is difficult too, because if you've had a certain level of training in formulation - if you've had a certain level of strategy -

I'm going to look at a search and I'm going to see ways to break it up that you're not, so when that search comes in you're going to have no way of knowing you should refer it until you maybe start running into trouble getting the material out or in trying to find it.

SPIEGEL: So what I'm saying is how do we best serve our patrons' needs if we don't have the level of sophistication? That's the problem that I'm really interested in.

HERRING: What I would like to see happen would be more intensive search training when you come into SUNY. I think if you could devote at least 2 solid weeks to search strategy, you'd come off on a level where, after that, you would learn from what you were doing and you would get much better use out of the system than you can get now.

HILL: I think that's absolutely true.

HERRING: But this is the biggest problem. At that point you wouldn't have to be asking me, should I do this on SUNY or should I do this on MEDLARS? Because you would have a very good idea of what your formulation and strategy limitations were on SUNY. But I don't think there is enough training for the people who are doing searches on SUNY.

HILL: With the little work that Rachel and I have done, this has been our idea, that you simply can't get anything out realistically unless you know how the indexing is done.

HERRING: That's just the whole point.

TANEN: I think that basically SUNY is supposed to be answering simple questions and when anybody wants a comprehensive search, they want it done by a MEDLARS analyst, to go through MEDLARS, and that SUNY is supposed to be used, for example, for somebody who wants a study of genetics in the Amish people, which is very difficult to pick out from the printed index because you can only get it by a title - Amish - and you could do it on the SUNY by asking for something like "Pennsylvania" perhaps or wherever else the Amish are, and the right words.

HERRING: I also think that SUNY should pick up a big overload for the one population that MEDLARS at this point can't serve at all and that's the clinician population. Because he does need 10 or 15 citations. It may require a fairly complex formulation to get at what he wants, but he doesn't want to be overloaded with it and he needs it within this week or as soon as possible. We can't even begin to touch that. After his patient has either lived or died and he doesn't need the

information any more, then he can write up his findings from what we give him.

TANEN: That's probably good criteria. If the patron can wait with MEDLARS, then that's what he wants.

HERRING: Yes, that would weed out a lot of yours and another thing I think I would do, if I had put a formulation through and I was getting a high retrieval back on 2 or 3 data bases, I might hand that to him and say, "I think for more information, this should go through MEDLARS." Because if you've gotten 10 citation limits out of each one, it's going to continue that way the rest of the way through, so send it to us, tell us that you've covered such and such portion, we won't repeat it, we can put a date on what we want to cover and we can pick up just where you left off.

SPIEGEL: What you're saying conflicts with Syracuse's going into this treeword thing. Doesn't it?

HERRING: I'll say this: if there were more training of the people doing the searching - a basic 2 solid weeks - I wouldn't have any qualms whatsoever about the treewords being in SUNY because you would know when to use them. My qualms now are that you don't know when to use them and that you're probably going to do as much damage as you're going to do good with them. But if you had a basic understanding of how to explode the treewords, of when it's to be done and I think you could get a pretty good basic working knowledge of search strategy within 2 weeks - I mean a concentrated 2 weeks. After that then I think it's a crime if you don't have the treewords.

SPIEGEL: What about the 10 citation limitation? Isn't that still a conflict?

HERRING: You would still have a conflict there, but you would know when to explode the treeword. You would then be using an explosion when probably even with your explosion, you're going to be lucky if you get the 10 because this happens in many cases. We have cases where we're exploding something here, but we're putting such a restricting thing against it here, that the results coming out of the printer are going to be very well within bounds. So if you use it properly, there's going to be no damage done. And that's why I say I wouldn't mind having the treewords in there for me now because I would know, "Oh my Lord, I'm not going to explode that and put that against that because let's see, at the minimum that's going to retrieve 300 citations and that means I'm never going to see the 300 printed out and I'm certainly not going to take the time to go through range and repeat to try to get it out." In that case, that search, whether you have tree structure in there or not, should be done by MEDLARS, not by SUNY.

TILLEY: I'd like to go back to when to use MEDLARS and when to use SUNY. If MEDLARS only has from 1966 to the present and SUNY has 1964 and 1965...

HERRING: Well, that's obvious you're going to have to use SUNY to get 1964 and 1965 for as long as SUNY is able to hang on to 1964 and 1965.

SPIEGEL: Carol, what do you think that the SUNY Network can do about increasing people's sophistication? You say that you think a 2 week training program would be better. Well, SUNY might decide to do that for new people coming on, but what about for older people who have gone through the one week training session, what should they do?

HERRING: I think you should apply enough pressure to Syracuse that Syracuse would set up such a workshop and then it would be a matter of your library sparing you for the length of time to attend.

SPIEGEL: In other words another workshop where you'd go through formulation. What about the May workshop? Do you think more of those are needed?

HERRING: I think it's quite good, but I think that for a basic, you need much more than that, and whether you've been to a couple of these or not, if you could get the SUNY Network to set up a 2 week search strategy training workshop...

SPIEGEL: Which would include the older users of SUNY as well?

HERRING: Yes, I think at least one person from each center, and that would then depend on how many of you they could spare, and then after that, I certainly think you should continue the workshops for updating and then just as a routine for whenever you are getting new people, that they could possibly go to Syracuse and get this search training a little more informally, but I do think you need a great depth of training in search strategy.

LIENHARD: We agree on that. I think the only question is whether really SUNY should provide that because the search strategy is the same for us as it would be for MEDLARS. Therefore wouldn't it be more appropriate if it could be done at Washington?

HERRING: I don't really think so because NLM has one little terminal sitting up there. I would almost think you might try to talk someone perhaps from the MEDLARS training staff to help you with the course, but I think it should be given specifically for SUNY and not handled through NLM.

TANEN: No.

HERRING: I mean I think you should try to find MEDLARS trained personnel. In fact, I think that's a definite must - that you find MEDLARS trained personnel to give this workshop, but that the workshop be handled completely through the SUNY Network because there are some things that SUNY doesn't have the capabilities to do, so we're not even going to go into it. Like I'm not going to tell you that we can sort your printout by journal or we can sort it by this or, "Let's see now, let's try this and this," because they're simply not within the range of the SUNY Network.

SPIEGEL: We're really concerned about these kinds of things here because we're going along doing searches and we think we're doing pretty well and we get some good feedback and sometimes we don't get any feedback at all, but it seems many times we might not be doing these things exactly right or we're doing SUNY when we shouldn't be doing SUNY and we're probably not doing some of the things - I'm sure we're not - that Carol has talked about.

HERRING: Well, it's no reflection on anyone, but by the time you've been through 4 to 6 months of specialized training in how to use the system, you've seen so many more requests, there are so many more possibilities, that when you look at a request, it'll mean one thing to you and quite another to me. And, as I said, you would automatically, I think resolve these problems of when should I use SUNY, when should I use this, if you had more understanding of search strategy. Because you would look at the request and you would say, "What I really need to do for this is to put this, this and this together and I simply can't do it with this system or this is going to be difficult to do so I'll shunt this over here." Or you'll get another one, "Oh, we should never waste MEDLARS time with that because I can easily do it here." But this requires the knowledge of search strategy.

SPIEGEL: What about Glenda or Doris at Cornell? Do you find you have many searches that you think perhaps you should be doing on MEDLARS?

LOWE: I have some searches I think should go to MEDLARS. For example, they are things on viruses. They want everything under the sun, but the time wait is what bothers me.

HERRING: If the 2 systems got to where they worked together, where the things were weeded properly to begin with, you'd have both functioning at a better level.

TILLEY: What's the evaluation now? You said you received 30% back.

HERRING: That's just the evaluation of the search itself.

TILLEY: Right. Have they been fairly good?

HERRING: They're very good or they're very bad. But as far as what we accomplish, I imagine we've had about a 50 or 60% recall within that area. Some we get 90% recall. But in general, we're somewhere in the middle. But usually you either get an evaluation form back that says, "Fantastic, 100 percent," or, "Searcher completely misinterpreted what I wanted." You get a few that don't bother to fill out the form in very much detail except that maybe they got 200 citations back and they put down that 100 were pertinent and they break it down, but as far as the actual verbalizing of what they got, no.

SUNY VS. MANUAL SEARCHING

SPIEGEL: What about SUNY and manual searching? I think we've certainly done some SUNY searches where what we should have done was a manual search simply because there is no other tool better suited to that subject area. One area I'm thinking of is PSYCHOLOGICAL ABSTRACTS. We've gotten a few searches in psychiatric or psychological subjects and we run right to the SUNY terminal, and we have gotten some citations out. There is some coverage of psychological journals in there, but I think we would have done a better search in PSYCHOLOGICAL ABSTRACTS, but we do this kind of thing and that's what I'm concerned about. Just going to SUNY where we should be going to other things. What do you do?

LOWE: I think everybody at the beginning goes SUNY-happy.

HERRING: The basic problem is the temptation. It's just so much easier to go and sit down at SUNY, so it's not your problem with your request so much as it's your problem with yourself in just being able to say, "No, this I really don't use this system for. Because I'm abusing the system to do this kind of thing on it." Sometimes if you sit there and tell yourself and think of it in terms of abusing the system, then it helps. Because you'll think, "This system does me so much good and here I really am abusing it for the other people that use it." Then you'll tend to swing some of the things along the line to the proper direction.

GROSS: Well, anyway, you can give them a few citations to get them started from SUNY and then do a manual search in PSYCHOLOGICAL ABSTRACTS and have that ready in a week or 2 weeks.

LOWE: Do you do the manual search for them?

SPIEGEL: Yes and that's the problem. Everybody is short-handed I'm sure and that's one of our problems, too, so it is easier to go to the SUNY terminal and type in the search.

LOWE: Yes, well we don't always. We suggest to them. You have to use some judgment or you just collapse on the spot.

GROSS: We don't compile bibliographies for students.

LOWE: Well, we get many students and sometimes we suggest supplementing this search because this is not adequate.

GROSS: We show them how to do it. We only will do a bibliography for interns, residents, faculty members.

LOWE: We've been trying to have the nurses use the SUNY and we find that the indexing for them is better in the CUMULATED INDEX TO NURSING LITERATURE (CINL). One of them came to me for something on "Job satisfaction when you're working on intensive care units," and I thought about it and thought about it, then I thought, "Oh, I'm crazy." And there was a nice heading, "job satisfaction" in CINL. I wanted in the worst way to do it on the terminal, but it was much better to have her go to CINL.

READ: We are over-using SUNY here when we could be using manual searching. I don't think it's always doing students a favor to do their work for them. And particularly there are students who are writing papers on a subject which they really don't know very much about; they ought to do the work themselves. Granted computers are coming in and people are going to have access to computer searching for the rest of their lives, but it's not doing them a favor to do the work for them.

HERRING: Well, it's not always the answer anyway. What they should have first is a basic understanding. It's unbelievable the lack of understanding there is. Most people have never heard of MESH, but they've been using INDEX MEDICUS for years.Now you can't get logical use out of INDEX MEDICUS if you don't do it through MESH. We don't do every search that we get coming into MEDLARS and a good proportion of them we bounce back in people's faces saying, "You could do this very simply if you looked under this heading." I think I had more of a comparable situation to what you've got when I was working at Texas

in the MEDLARS situation, because we sat right in the middle of the campus and nearly all of our requests walked in and I had student after student coming in and what I routinely did at that point was to ask them what they were looking for. Usually, they didn't want more than 10 or 20 citations to begin with, at which point I would explain that from an economic standpoint I simply couldn't do that for them, and asked them to tell me what the subject was and I'd spend the same time formulating how I would do it and explain the formulation to them, but then they went to the Index and used the headings and the crossings that I had suggested. So I would take the time to help them in a sense, to formulate their manual search, but I wouldn't put it through the machine.

MEDLARS RECURRING DEMAND SEARCHES VS. IN-HOUSE CURRENT AWARENESS VS. SUNY CURRENT AWARENESS

HERRING: I think the medical specialist would be an ideal candidate for our Recurring Demand Search (RDS). This would be tailor made. It would be taking the headings he's scanning in MESH and having them printed out once a month for him and he then doesn't have to go and tie down the users of the only volume of MESH there is in the Library.

READ: Well, we do this ourselves by xeroxing INDEX MEDICUS on a regular basis and sending it out.

HERRING: That's a great deal of effort because what we do for an RDS is, we keypunch a deck of cards and that deck of cards is just reloaded. Once the deck has been punched, it's a matter of pulling it off the shelf and that's all there is to it. And this would be ideal for that type of person.

READ: Do people subscribe to this type of service?

HERRING: All they have to do is notify us that they want it.

READ: Do they notify you every month?

HERRING: No. They notify us once and say, "We want to start a Recurring Demand Search. We want ours run every 3 months. At that point, the deck is made and it goes to the Processing Center. We don't even keep the decks at New York. They go to NLM and are kept on file.

READ: That would make sense, but it's difficult for us because we, with using SUNY, would have to put through each search and wait while it prints out. As we do it now, it takes up a lot of extra time. We have a part-time student who does nothing but xerox INDEX MEDICUS, cut it up and send it out.

LIENHARD: We're going to run that type of service offline too, so either you go to MEDLARS or use SUNY. We have been working on a pilot project in this area where we've actually gone out and solicited subjects on an experimental basis, that could be handled - a current awareness program - from specific doctors, working with another library in the SUNY system, and we're just about at a point now where we'd be able to evaluate it. We do expect or hope that we will be able to offer this kind of service to the doctors. So it would perhaps be handled through your library, but it would not go through your terminal, because that would load down the terminal and the whole idea is not to do that. The idea is to leave the terminal open for online searching. We have done the programming for it. We know we can do it. It's just a matter now of evaluating it, coming up with the proper price structure and that's very difficult because, when is a broad subject 1 or 2 or 3 searches? That's the problem.

HERRING: Our RDS service is an existing thing we've got going now and it works quite well with a very minimum amount of time. It's one place where I think the systems are getting into competition if SUNY does it too, unless SUNY were to do it for the simple things, the smaller searches. An RDS may be formulated to encompass maybe 50 headings for the person's specialty. Now I think that's a little broad for you to get into running offline, because that may run into several hundred citations for each RDS. That's not at all uncommon.

LIENHARD: The only thing there is, if you only do it on a monthly basis it shouldn't be that many.

HERRING: It doesn't work that way.

LIENHARD: Well again, this is something we have to think about some more, but you see on the monthly basis, we don't expect the kind of volume that we have on the offlines and therefore we could give you 200 citations or 300 citations if they came out. We wouldn't have the problem we have now.

HERRING: I think you'd get yourself into trouble because as soon as you started doing it, it would be like the RDS in MEDLARS. All of a sudden you started with one and you're doing 50 and that thing grows like Topsy.

TANEN: Because that's a great thing.

HERRING: It's a great thing. The head of a department latches on to this and he says, "I want it." And then every other head of a department wants it and you may start off being able to give 200 citations, but by the time you've got 50 people wanting something running through like that . . . I mean you may start small, but it's not going to stay small because it's just much too nice a service.

LIENHARD: It's a system limitation that we have to face. Right now what happens is that we do full retrospective searches when we run the offlines and so we go through every data base and we pull out everything that hits on that for, let's say, 200 searches that we have in there. And so as you go through, this is quite a lot of information which is handled and if we look at the same thing on just one small data base, you know, only 30,000 citations or so, that we loaded for one month, then it wouldn't be much at all.

HERRING: But you would be amazed at the amount of material that's coming out on the RDS's. Because for example, this man wants this big heading matched with that big heading and for a big volume heading, it's easy to get 100 citations in a month. When you're looking at the whole field - the man's in the field of ophthalmology, let's say, and by the time he picks the headings in the field that apply to him and you add the tallies for each of those headings, you now have got a big search coming out and I think you're going to be bumping into more there than you anticipate.

SPIEGEL: What about Current Awareness on the terminal right now? Have you tried that at all?

MARIN: No. If somebody's interested, he comes to the Library. He says, "I would like whatever data bases were loaded in after I did my search." It doesn't happen so frequently, but sometimes it does.

SPIEGEL: They have to ask you specifically? You don't have a file of searches that you take out and every time a data base is complete, you run those searches?

MARIN: Yes.

SPIEGEL: We haven't done that at all.

GROSS: The last MEDLARS search that came in, we told the patron to come periodically and we would try to put it into the SUNY Network. It would probably be a good idea if they came periodically, say, every 6 months.

SPIEGEL: What about at Cornell? Do you do current awareness at all there?

LOWE: We haven't. One day I felt I ought to do something about it so I asked a doctor who had a search done 3 months ago. He said, "Oh, I haven't finished working on this one yet. I'm too busy."

INTERCHANGE WITH PATRON

TILLEY: [to Herring] I imagine you don't work with the doctor or the person requesting the search, personally.

HERRING: Well, he doesn't always walk into the office, but there's one thing you have to do. You have to understand what he wants. So if he doesn't walk into the office, you certainly pick up the phone and talk to him personnally until you both understand what you're doing. This is something I would almost suggest to you when you're interviewing, except I know your time is very limited. I hate to have the person who's coming in for the interview want me to formulate the search on the spot. I want to talk to him generally in a conversation and find out what it is he wants. I don't even want to think in terms of subject headings at that point.

LOWE: We're not working that way. We're working the whole formulation out. Actually, we're using our techniques to make him give us the proper words.

HERRING: Yes, but that's the biggest drawback in the system though, because he does not understand how those words are used.

LOWE: Yes, but we keep asking questions on what he wants and keep trying to clarify. It works for us.

SPIEGEL: How do you do it at Downstate?

GROSS: It's a little bit difficult to talk about the SUNY terminal, and before I answer the question, I have a question. About how many searches do you do a month?

LOWE: At Cornell, we're doing about 70, roughly.

SPIEGEL: We do about 55 or 60.

GROSS: If we hit 30, that's a tremendous amount; we have 314 for the year. The thing is, we don't use the terminal that much, and I think it mainly has to do with the clientele we have. Carol, I'm very glad you made that point about the practicing physician being a very huge user of this possible service. We don't get that many clinicians coming into Downstate. They go to most of the outlying hospitals. Our primary clientele are

the basic researchers who use items besides INDEX MEDICUS. They would use CHEMICAL ABSTRACTS and BIOLOGICAL ABSTRACTS and other things as well. So we get the basic research people and we get the students who can use the computer, but they can be satisfied in other ways too. So that's why we don't even use it that much. The person comes into the Reference Room; we discuss the problem with him; and 9 times out of 10, it does not go to the computer.

HERRING: I want to go back to something on the interview. When you have been through enough training to have that vocabulary at your beck and call instead of being somewhat confused by when to use what, you will find that you're going to be more hampered if you sit down with a list of terms and talk to him and say, "Now, out of this and this, what do you want?" You'd be better off if you would spend the first encounter with that person getting him to tell you just in his own words and making sure you understand as a person to person, what he wants. Then you sit down and go through the tree structure, etc. and pick words. At that point if you have particular doubts, or if there are words you are not sure of, you can ask him about those, but a good percentage of the time, if you sit down with a list of words and you start talking about what he wants, it's like how many citations do you want? "Oh, you've got that one, gee, I want that one too."

LOWE: It doesn't work that way with us.

HERRING: If you show him a list of words to begin with, he is really not aware of the indexing policy behind the words. He's going to say, "Oh, that looks really good." And then he's going to get something on that and say, "That's not what I thought was true at all."

LOWE: I find that part of discussing is to help him clarify what he wants. They come in with such vague things. They themselves don't know what they're looking for.

SPRUNG: But I think you try to get their sentence first before you go ahead.

LOWE: We don't open up a book right away. They fill out the form, you read it and you say, "Are you really looking for this or this?" Or, "Try to be specific." They often want everything. One I turned down - somebody wanted everything on enzymes and diagnosing every disease. So I said - it was a medical student - "Perhaps you can look at Colowick, METHODS OF ENZYMOLOGY." So that took care of that. But some of them don't even know that they want that much. Everybody you talk to is different, so you sort of size them up and talk awhile. Then if you feel you've gotten to a point, you can sit down. Many times I don't know the field specifically enough and I would put in some words, and they would say, "Oh, I don't want anything on that." They'll take about 3 words out of what you might offer, say 5. For me, the way I do it, it seems to work.

READ: That works for us too, and the reason is first of all because we don't know the field. But so often the doctor will come in with a term in mind that isn't in INDEX MEDICUS and it's very hard for us to translate it. We did one recently on "Failure to Thrive," which is not a term in INDEX MEDICUS. It's a common medical term and yet how do you exactly describe it? But if you sit down with the doctor and look at INDEX MEDICUS and fool around with it for awhile, he can help you figure this out. We simply don't have the sophistication to say, "Oh, that goes under this heading." We don't have the medical background so it has been a big help in our formulating to sit down with the doctor. I think more than having them pick out too many headings, it's helpful to have the doctor there to pick out one heading, to figure out where it is you want to start.

LOWE: Particularly when it's not a clear-cut subject heading. Those are difficult.

MARIN: But a good thing is to show him where in the categorized list the word is located; what are the related words, so he knows what it really means - whether it is the right kind of thing or completely wrong. That's what I very often do and show him.

SPIEGEL: I don't feel at all confident in having the doctor walk out without my having pretty much set up that search. We set it up here pretty much with him.

LOWE: I think that happens when you're beginning with it. I have a very wide background in the pharmaceutical field, yet still there are so many areas I am not familiar with. You get into the field of genetics - I don't know that much. I do need help.

HERRING: I'm not apt to pull a list. It will depend - there are times when all of us will sit down and pull a certain section of the tree because it is the only way we can handle it, but as a routine, no. But I would ask him to tell me what are the headings that he would use if he were discussing this just in everyday language. But here it comes to the point she [Read] mentioned, you've got to translate it to the system and this is difficult to do if you're not experienced with the system.

LOWE: I find what they do is, they come in with 2 key-words and you don't know what they're looking for. They write 2 or 3 words down and I say, "Would you write a sentence?" I keep trying to get them to write it out in a couple of sentences.

SPIEGEL: That's why we try to tell him to use his own terms, because if he starts to use the terms in the system, he might not be using them correctly. It restricts what he's trying to tell us. We ask that he use his own words and then it's up to us to work with him to try to figure out where it is indexed.

MARCOLINA: Sometimes if they're able to give you one pertinent citation - because we routinely ask for it on the form.

HERRING: That helps tremendously.

SPIEGEL: Yes, trace that back.

HILL: I think another important thing too, when you're talking to these people, when you don't know what they're talking about, just don't sit and pretend that you know for your own pride. If you do that then you're totally lost.

SPIEGEL: You can't do that with SUNY. That's one good thing about SUNY. It doesn't allow you to do that because when that printout starts coming out it's going to look pretty bad.

HILL: But when that man comes in with his highly sophisticated terminology, it's just breaking him down so that you have some vague idea of what he's talking about. Even if you want to go to some of the reference books after he leaves to get a little more confidence, so at least you know how to approach it.

SPIEGEL: That's right. I feel I'm looking pretty dumb to some of those doctors sometimes, and I say, "What does that mean? I don't understand it." It may sound pretty elementary, but I don't care as long as he can give it to me as something I can understand and work with from there.

LOWE: I just get up and grab a book and say, "Let's see if we can find a proper synonym."

HERRING: What do you do if they don't have any time to spend?

LOWE: Then I say, "Perhaps you can come back another time," or "I'll take what I can; I'll call you back." And I work on it and then I can call him back.

HERRING: I would prefer to take the request, talk to them about it, not even touch the list of terms while they're there, when they're gone, when I have the room to think, then I begin the formulation, and select the terms. At that point, if there are terms I don't know whether I should use, if I can't determine whether I should use them by pulling down the dictionary and seeing how they're defined, then I'm going to call that person. But I'm not going to take as much of his time or as much of my time, getting into a discussion over this term or that term.

How familiar are most of you with the MESH vocabulary?

LOWE: Much more familiar [than we had been before using SUNY].

HERRING: This is what I'm saying. If you were really familiar with the vocabulary you would not spend as much time looking at terms with the doctor, while he's there. Because you wouldn't actually have to spend that much time.

LOWE: But don't forget, we're only using it a few months.

HERRING: This is one of the things I'd like to see gone into, in the search strategy.

SPIEGEL: And the INDEXING MANUAL too would be something I wish I could have in my head. All that information in there.

READ: Also, none of us are ever going to do as many searches as you are. So that maybe we do 1 or 2 or 3 a day, but it's going to take us a million years before we really know.

LOWE: Three a day is a lot.

HERRING: No, it's not going to take that long. If you're doing 60 or 70 a month, you're going to be covering the subject areas that we hit; you're going to be getting as much exposure to the vocabulary as we do. What you need is the basic point to start from. How well do most of you really understand how that tree structure is set up? How much do you really understand the inner relationships of the terms in the categories?

SPIEGEL: That's something we probably don't know. We don't know how much we don't or do understand.

HERRING: I would imagine there's quite a bit of difficulty - this is what I keep harping on - is that I just want someone to take the time to see that there is at least a minimum of training made available so that you understand the basics. Because once you've got the basics then your own experience will teach you.

DISTRIBUTION OF NLM INDEXING AND FORMULATING TOOLS

HILL: Isn't it true, Carol, at least I have gotten the idea - that NLM hides all this from the clientele, their indexing manuals and that sort of thing. It's all kept secret. I don't know that it is, but. . .

HERRING: For the clientele the INDEXING MANUEL is somewhat secret. When I first came into MEDLARS in 1967, you would have created a miracle if you would have talked NLM or MEDLARS into giving you a tree structure, because that was the feeling at the time. That this was for in-house use, but 2 years later, enough people began to howl that now the tree structures are usually available if there is a supply to give out, but they're not printed up in mass amounts for X number of the world. Now the INDEXING MANUAL is something I don't think should necessarily be passed around everywhere, because unless you've had the indexing training to go with the manual, it's probably going to be just about as confusing. But if you're going to attempt to use the system, if you're going to be a searcher for SUNY or AIM-TWX, then I think you should be exposed to the tools. But as far as just being a Reference Librarian somewhere, no, I don't think you should necessarily have the INDEXING MANUAL or all those tools. I do think you should be able to get a hold of the tree structure and a categorized list even though a good proportion of what the tree structure is designed for is not going to do you any good, it will still help you some in term relationships. And also the INDEXING MANUAL - that's just the starting point. Every few months there are changes that go into it.

SPIEGEL: A lot of the material that comes out of NLM we used to be getting from Syracuse. I don't know if we're still getting that. Are we still getting that kind of material?

LIENHARD: Sometimes when summaries are available, yes, but I think generally the tendency has been for NLM to tell us that if somebody wants something they should go directly to them.

SPIEGEL: But how do you know when some of these things are coming out? Like revisions to the Authority File, etc. Syracuse used to provide us with those lists and we haven't gotten them lately. Do they still put those out?

LEINHARD: I can't answer that one on the Authority File.

DENTAL SEARCHES

GROSS: Does anybody use the SUNY terminal for dental searches? We don't have any dental students at all.

SPIEGEL: Yes, we have a dental school.

GROSS: Do you use the SUNY terminal?

SPIEGEL: We haven't had too many dental searches. We've done some searches on SUNY in this area and I really can't evaluate them because we haven't had too much experience in this area. They have a feature called "Special List Dental" which is supposed to get you right into the IDL citations, so that if you know that it's a dental search, you can get right into that literature, but it doesn't seem to work very well.

HERRING: There are quite a few things and I don't know whether you've gotten this, but there are special instructions on how to search for dental material, and how you should formulate for them which have come out in the technical bulletins, but I don't know whether you have been exposed to them.

SPIEGEL: What technical bulletins?

HERRING: This is the MEDLARS TECHNICAL BULLETIN.

SPIEGEL: No, we've never seen that.

TANEN: There's a whole booklet on instructions for dental searching.

READ: Most of our dental people are doing research and once again SUNY is not so hot for researchers.

TANEN: It's great. I just did a great search for a dentist, "Comparative Anatomy of the Mandible."

HERRING: There's a lot of material in the data base for dental searching, but there are also some special little things you have to know about it. You run into trouble if you "and" and "or" things in dental searching in the usual way, because of the way some of the things are indexed, and this is what's brought out in these special instructions. It tells you how not to "and" yourself out of the picture.

SPIEGEL: We don't know about that at all.

TANEN: Is it dentistry that doesn't use subheadings?

HERRING: I'm not real sure. One of them doesn't.

TANEN: One of them you can't use subheadings and if you ask for subheadings, you're going to get nothing.

SUBHEADINGS

LOWE: Stay away from subheadings if you can.

HERRING: Don't stay away from subheadings. It's the most useful thing you've got.

LOWE: Sometimes it's very useful and sometimes it's not.

SPIEGEL: We've been told to stay away from subheadings. That was part of the training. It was suggested, anyway.

LOWE: I think sometimes you restrict yourself where you shouldn't, particularly when you're correlating with a lot of other things.

SPIEGEL: Yes, the chance is though, if you don't use a subheading where it might very definately be one subheading, you get all the citations under all of the subheadings.

LOWE: Yes, but you have to know.

HERRING: This is the whole thing. Sometimes you shouldn't use just one subheading, you might use 2 or 3 subheadings with the same main heading, but subheadings give you more control over the system than anything else you've got. And in indexing training, subheadings are literally beat over your head and if you don't do them right . . . I mean you shouldn't have to worry that much about subheadings being misused because if there's anything that's pounded into you when you're indexing, if there's anything that's revised on your paper, it's which subheading you used and how you used it and if you didn't use it, you certainly got it poked down your throat. Probably just about as much care or more, is spent on subheadings and the proper use of them in indexing, as on any other aspect. Frequently you may not think you're getting anything and it just may not be there or you may have selected the wrong subheading to try to get the material out. But it's there. Because about the only way they wouldn't use a subheading or write down a whole list of them is if the article itself is so broad it covered every one of the subheadings. Then just the main heading alone would be put down. But if it could be covered by 2 or 3 subheadings, they are used. You

defeat the whole purpose of the system if you don't index with the subheadings or if you don't search with them. But again, the trick is knowing the definitions of the subheadings very, very carefully and also knowing that certain subheadings can only be used with certain categories. So then again, you have to be very familiar with the subheadings and how they can be used and know that each subheading is used within a certain definition. And if you don't have the same idea of the subheading as the system uses, then that subheading is not going to net you anything.

SPIEGEL: We eliminate them many times. We consider a subheading and we say just in case that might not be the right one or it wasn't indexed properly or . . . we'll just use the main heading without the subheading.

HERRING: Ruth, do you agree with me that you usually don't have to worry too much about the indexing with subheadings?

MARCOLINA: Because subheadings are very, very closely controlled.

HERRING: I think you can stop telling yourself that it's not indexed properly with that subheading. It's about the most carefully controlled thing you've got in the system, so you can just drop that idea. What you would have to do is maybe just take a little more care in which subheading you use or use more than one subheading, but if you haven't used a subheading, you may be taking up 6 out of the 10 citations possible in each data base with something you could have eliminated, and then fill 10 out of those 10 with the aspect you wanted.

HILL: I have a question on searching on a main heading with a subheading. Now supposedly from what I can read, you're not supposed to do this, OK?

SPIEGEL: Right. Not unless you are coordinating with another concept.

HILL: Yet, from what I read in the indexing instructions, there may be several printed headings plus several other things that are assigned that do not print, but are on the computer tapes. Would you retrieve this material that you would not get from the printed INDEX MEDICUS? I'm talking about for instance, "Diphenylhydantoin dash metabolism." Now this is a heading in INDEX MEDICUS, but would for instance, "metabolism," as a subheading show up on the tapes where it may not show in the printed INDEX MEDICUS?

HERRING: Possible, but it's not terribly likely. The only way you'd have that is if "Diphenylhydantoin-metabolism" and "Diphenylhydantoin-adverse effects" or something, let's say, "adverse effects" was the emphasis, that would be "print" but there was also something about the "metabolism" that would be "non-print."

HILL: But there is a possibility by using the computer you would get this out?

HERRING: There's a possibility, but it's remote. Occasionally, you'll have the same heading with 2 or 3 different subheadings and 2 of them would be "non-print" and one would be "print," but that's not too often likely. And if you were just using the main heading, you would get all 3 of those. So your best bet if you felt that, would be to pick out more than one subheading and use all 3 in fact.

FUTURE PLANS FOR SUNY

HILL: [to Lienhard] When you're planning to expand the number of terminals, are these terminals going to work from the same hardware or will the hardware be expanded too?

LIENHARD: No, we are definately planning to expand the hardware and we do believe that this will give better performance to our users. The system has been growing and expanding and we will therefore use more hardware, faster hardware, which ought to improve performance and at the same time, we are aware of some things that we could do that would improve performance from a programming standpoint, but again the existing hardware doesn't let us do that and if we get another $50,000 a year then it would, but that's a lot of money.

SPIEGEL: I just wanted to say one more thing. Maybe this would be a good way to wrap it up and that is, can you tell us, Mr. Lienhard, anything at all about what SUNY has in mind with this explosion feature, what are you planning, what are you experimenting with, in what direction do you want to go with that? Is that a loaded question?

LIENHARD: I think it is somewhat of a loaded question because it does mean that if we tried to use the explosion to its fullest extent we would be doing very much what MEDLARS is doing. At the same time, we would have a lot more systems problems. So it's a question of defining our position vis-a-vis MEDLARS you see, or vis-a-vis any other services, and that is something that does take some coordination. It's also something that means maybe going after some sacred cows with some people and so it's a little bit of a problem. It also does mean money and all these things seem to come together, not necessarily in a way that we might like. So as I see it right now, we will make this available for new data bases and I'm sure there will be some problems, because people might go overboard and explode something very big which then would give you too many terms, because the system does have a limitation with the number of terms it can handle. Again people may make some mistakes.

HERRING: Let me warn you right now if they're going to come in - you can't explode one section against another if the same term appears in both. Now be very, very careful. You'll get a one-term printout on the one term that's in both. Which means you cannot ever explode things without looking at each term under the explosion and checking the explosion with what you're "anding" it to.

SPIEGEL: Does this happen in MEDLARS too?

HERRING: Yes it happens. You usually learn by experience.

SPIEGEL: We have not been informed about that at all.

HERRING: But it's something you're going to have to know if you're using the tree structure, because you'll get citations back and you'll say, "Where the devil did that come from?" And sure enough, you'll go back and find you've overlooked a term. I think I've checked carefully - it's very difficult when you're exploding related parts of systems, like maybe you've got the hematopoietic system here and you've got something with the blood over here, if you're not very, very careful, you'll find out that this heading has been used in this explosion and it's also been used in this explosion, and "spleen" is here and "spleen" is here, which means I now cannot explode these things and match them against each other or the only thing that's going to be in my printout is "spleen."

LOWE: If you wanted to, what do you do about that? How do you handle it? Do you find the word that's in both?

HERRING: Well, there are a couple of ways of handling it. You can break the big explosion into smaller explosions or you can sometimes negate the offending word in one side. It's usually better to explode the bigger section and break the other one into smaller parts and then sum them. Well, you're not going to get into that exactly anyway. But you will have to be careful though. When you're doing an explosion you have to be very, very careful or you frequently, without even thinking about it at all, will get yourself a printout just on one term back.

SPIEGEL: I assume they'll tell us more about that at the Workshop in May, because we don't know about that at all.

HERRING: This is another thing I think should be - I keep harping on this. This is the reason I think you need more intensive training, because there are things like this. This possibly would not be pointed out to the system at all and people would then have this happening and wondering what was happening to their printouts. There are other little things. Explosions can be very tricky if you don't ask for them in the right ways. There are lots of things you can mess up.

HILL: Don't you think it would be advantageous if SUNY could get together some sort of an indexing manual tailored to the needs of SUNY even if they charge for it? For novices using the system?

HERRING: Yes, you're going to have to have cooperation here with someone who's trained for MEDLARS to take the time to put together such a publication. We don't even have it for MEDLARS. I mean that seems like a crying shame, but there's no manual for MEDLARS searching. Each class simply learns it as they go through or learns it when they encounter it and somebody says, "You shouldn't have done that."

HILL: But most of the people working with SUNY don't have nearly as much instruction as you have.

HERRING: That's right. Both for providing the intensified training course itself or putting together any kind of a manual, that would have to be done with someone's help who has had extensive training and preferably some experience.

HILL: But it would still make the system a lot more valuable to everyone concerned.

HERRING: Oh, certainly. I think there should be a MEDLARS training manual and I'm not quite sure why no one has ever put one together. Well Thelma's offered to write it - Thelma being Thelma Charen who wrote the INDEXING MANUAL - "indexer extraordinaire." But it just never has gotten written. And as far as the INDEXING MANUAL, I think you all ought to have a copy of it, but I wish you good luck in trying to read through it.

SPIEGEL: We don't try except when it comes to specific problems.

HERRING: Well, if you've seen one, it's approximately that thick, 495 pages, something like that, and you learn it, but you learn it because you're doing indexing training on the spot. You're thinking, "How do I index . . . wait a minute." And you go look it up in the Manual and you coordinate it because just picking up that Manual without having tried the index and reading through it, would be confusing.

HILL: But even if you have access to it when you're trying to formulate a SUNY search, you can still see how they're using specific subjects.

HERRING: Not really. There's so much of it that's reading between the lines and it just covers the exceptions to the rule; it doesn't necessarily cover the rule.

MARCOLINA: And other parts would be in the Technical Notes.

HERRING: And the only way to really learn that much about it is actually to do some indexing yourself.

LIENHARD: I think the thing here is simply that everybody who has been using the system conscientiously gets better and better the longer they use it. Right?

HERRING: Yes, it gets better and better, but there are some things you'll never learn unless you've had a basic thing to start with. That's why I think the people who have already been trained and already been using the system, need to go back. There'll be some of it that's old hat to them, but there'll be other parts of it that they'll have had no idea about.

SPIEGEL: Thank you all for coming. I've found this session very worthwhile and I hope you have too.